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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/829,008
Filing Date: April 21, 2004
Appellant(s): Leaming

John F. Woodson, II
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/20/08 appealing from the Office action mailed 05/23/08

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Final Rejection

The appellant's statement of the status of the final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statements of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2005/0251596	Maier	11-2005
2005/0108571	Lu	05-2005

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

REJECTIONS BASED ON PRIOR ART

Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1, 2, 5-13, 16-35, and 38-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier (US 2005/0251596) in view of Lu et al. (2005/0108571).

6. As per **claims 1, 12, and 34**,Maier discloses "An integrated circuit for a smart card **(USB device in fig. 1)** and comprising:

at least one data terminal for providing communications with a host device **(see fig. 1, which discloses communication between the smart card and host device)** over a system bus **(the USB bus, as discloses in fig. 1)**; and

a processing system providing an attachment signal on the at least one data terminal for recognition by the host device **(see fig. 1 and paragraph 0043)**,

cooperating with the host device to perform an enumeration based upon at least one default descriptor **[descriptors (I)] (paragraph 0043 discloses "in a first**

enumerating step ENUM1, the USB host will enumerate the USB device. In other words, as illustrated in FIG. 2, the USB host will retrieve from the USB device to the USB host only the descriptors (I) associated to the standard service SO and to the mass storage service S1"), and

selectively removing the attachment signal from the at least one data terminal and thereafter again providing the attachment signal on said at least one data terminal and cooperating with the host device to perform a new enumeration based **(ENUM2, as discloses in paragraph 0055)** upon at least one alternate descriptor **[descriptors (II)] (see paragraph 0055)**, based upon allocations of system bus bandwidth to the device communicating with the host device over the system bus **(see paragraph 0034, which discloses 'allocating' memory base on the bandwidth of devices)**.

Maier discloses the functionality of the smart card and fail to specifically discloses the structure of the card and more than one other devices.

However, LU discloses smart card to be an integrated circuit having a transceiver, a processor and descriptors. For example, as evidence in Para. 0004, Lu discloses, "A**n example of such a resource-constrained device is the smart card. A smart card is simply a plastic card containing an integrated circuit with some memory and a microprocessor. Typically the memory is restricted to 6K bytes of RAM. It is anticipated that smart card RAM may increase by a few kilobytes over the next few years. However, it is very likely that memory size will continue to be an obstacle to smart card applications. Most smart cards have 8-bit microprocessors". See also paragraph 0006, which discloses an interface of**

the card and fig. 2 of Lu, which discloses multiple devices (cards 201cs) communicating with a host device).

Maier (US 2005/0251596) and Lu et al. (US 2005/0108571) are analogous art because they are from the same field of endeavor of communication between a smart card and a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system comprising a main device and an auxiliary device arranged to co-operate with each other as taught by Maier and an infrastructure-less resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructure-less resource-constrained device as taught by Lu.

The motivation for doing so would have been because Lu teaches, **("an infrastructure-less resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructure-less resource-constrained device. Such infrastructure-less resource-constrained devices can easily be adapted so that the resource-constrained device can provide many of the functions traditionally associated with full-fledged network nodes" (see paragraph 0022).**

Therefore, it would have been obvious to combine Maier (US 2005/0251596) and Lu et al. (2005/0108571) for the benefit of creating a smart card to communicate with a host to obtain the invention as specified in claims 1, 12, and 34.

7. As per **claims 2, 13, 24, and 35**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein further comprising at least one power terminal connected to said processor, and wherein said processor receives power via said at least one power terminal during removal of the attachment signal **(see paragraph 0013, which discloses power going though the device)**.

8. As per **claims 5, 16, and 38**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein said processor monitors communications with the host device during removal of the attachment signal" **(see paragraph 0034, which discloses monitoring of communication by the USB device)**.

9. As per **claims 6, 17, 28, and 39**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein the at least one alternate descriptor comprises at least one device descriptor **(see paragraph 0008)**.

10. As per **claims 7, 18, 29, and 40**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein the at least one alternate descriptor comprises at least one configuration descriptor **(see paragraph 0009)**.

11. As per **claims 8, 19, 30, and 41**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein the at least one alternate descriptor comprises at least one interface descriptor **(see paragraph 0010)**.

12. As per **claims 9, 20, 31, and 42**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein the at least one alternate descriptor comprises at least one endpoint descriptor **(see paragraph 0011)**.

13. As per **claims 10, 21, 32, and 43**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein said at least one data terminal comprises first and second data terminals for differential data signals" **(see fig. 2 and Paragraph 0058).**

14. As per **claims 11, 22, and 33**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Lu further discloses

comprising a USB transceiver connected between said processor and said at least one data terminal **(see paragraph 0022)**.

15. As per **claims 23 and 25,** Maier discloses "A smart card system **(see fig. 1)** comprising:

a host device **(USB host device in fig. 1)**;

a smart card **(USB device of fig. 1)** body to be read by said smart card adapter and

comprising a smart card body and an integrated circuit carried by said smart card body, said integrated circuit comprising:

at least one data terminal for providing communications with a host device **(see fig. 1, which discloses communication between the smart card and host device)**; and a processing system providing an attachment signal on the at least one data terminal for recognition by the host device **(see fig. 1)**, cooperating with the host device to perform an enumeration based upon at least one default descriptor **[descriptors (I)] (see paragraph 0043 discloses "in a first enumerating step ENUM1, the USB host will enumerate the USB device. In other words, as illustrated in FIG. 2, the USB host will retrieve from the USB device to the USB host only the descriptors (I) associated to the standard service SO and to the mass storage service S1")**, and

and based upon a system utilization metric exceeding a threshold **(with respect to this limitation, paragraph 0015 from the applicant's specification discloses "In such case, the system utilization metric may indicate that bus utilization is above a threshold, which would prompt the processor to re-enumerate using one or**

more alternate descriptors that would allow it to more efficiently utilize the limited bandwidth". Similarly, Maier discloses, in paragraph 0055, "in a second enumerating step ENUM2, the USB host enumerates the USB device. As illustrated in FIG. 2, only the descriptors (II) associated to the services (S1, S2, S3) which have been activated and the descriptor associated to the standard service (S0) will be retrieved". Maier discloses a negotiation flag (see par. 0041), which is being use as a metric. The metric exceeding a threshold is the negotiation flag moving from not active-to-active. As stated in paragraphs (steps) 0042 to 0049, the negotiation flag getting to an active state is exceeding a threshold), selectively removing the attachment signal from the at least one data terminal and thereafter again providing the attachment signal on said at least one data terminal and cooperating with the host device to perform a new enumeration **(ENUM2)** based upon at least one alternate descriptor **[descriptors (II)]". (see paragraph 0055)**, the system utilization metric based upon a device communicating with the host device **(see above, which discloses the negotiation flag and fig. 1, which discloses communication between the device and the host)**.

Maier discloses the functionality of the smart card and fail to specifically disclose the structure of the card, more than one other device, and a smart card adapter connected to the host.

However, LU discloses a smart card to be an integrated circuit having a transceiver, a processor and descriptors. For example, as evidence in Para. 0004, Lu discloses, "A**n example of such a resource-constrained device is the smart**

card. A smart card is simply a plastic card containing an integrated circuit with some memory and a microprocessor. Typically the memory is restricted to 6K bytes of RAM. It is anticipated that smart card RAM may increase by a few kilobytes over the next few years. However, it is very likely that memory size will continue to be an obstacle to smart card applications. Most smart cards have 8-bit microprocessors". See also paragraph 0006, which discloses an interface of the card. See also paragraph 0086, which discloses "["The smart card reader 215(6b) provides an implementation of the Peer I/O Server 613(6b), described in greater detail herein below. The smart card reader 215(6b) connects to the smart card 201(6b) through an ISO standard half-duplex I/O interface and to a host computer 217(6b) via a standard full-duplex I/O interface 607. Because the smart card reader 215(6b) completely handles the ISO 7816 protocol, and connects to the host computer 217(6b) using standard serial protocol, no additional software, beyond that which is normally found on a PC, is needed on the host PC 217(6b)"]." In regards to "the system utilization metric based upon a number of other devices communicating with the host device'**, see fig. 2 of Lu, which discloses multiple devices (cards 201cs) communicating with a host device.**

Maier (US 2005/0251596) and Lu et al. (US 2005/0108571) are analogous art because they are from the same field of endeavor of communication between a smart card and a computer.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the system comprising a main device and an auxiliary device

arranged to co-operate with each other as taught by Maier and an infrastructure-less resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructure-less resource-constrained device as taught by Lu.

The motivation for doing so would have been because Lu teaches, **("an infrastructure-less resource-constrained device, for example, a smart card, capable of acting as a full-fledged network node providing secure communication to other nodes on the network and in which the security boundary is located on the infrastructure-less resource-constrained device. Such infrastructure-less resource-constrained devices can easily be adapted so that the resource-constrained device can provide many of the functions traditionally associated with full-fledged network nodes" (see paragraph 0022).**

Therefore, it would have been obvious to combine Maier (US 2005/0251596) and Lu et al. (2005/0108571) for the benefit of creating a smart card to communicate with a host to obtain the invention as specified in claims 23 and 25.

16. As per **claim 26**, the combination of Maier and Lu discloses "The smart card system of claim 23," **[See rejection to claim 23 above]** Maier further discloses "wherein the system event comprises the occurrence of attempted unauthorized communications" **(with respect to this limitation, paragraph 0048 from the applicant's specification discloses "Another example of a system event which**

may trigger a new enumeration is the occurrence of attempted unauthorized communications, at Block 61', such as would be the case when someone attempts to eavesdrop or hack into the system 20.". Similarly, Maier discloses, in paragraph 0019, "In addition, an Internet Service Provider can, for example, define its own proprietary login application and store it on the Smart Card itself (USB device). The risk of hacking the login application is therefore reduced").

17. As per **claim 27**, the combination of Maier and Lu discloses "The smart card system of claim 23," **[See rejection to claim 23 above]** Maier further discloses "wherein said processor monitors communications with the host device during removal of the attachment signal" **(with respect to this limitation, see Maier, paragraph 0034, which discloses monitoring of communication by the USB device)**.

18. As per **claim 44**, the combination of Maier and Lu discloses "The integrated circuit of claim 1," **[See rejection to claim 1 above]** Maier further discloses "wherein the smart card operates in a universal serial bus (USB) mode" (**Paragraph 0077 discloses the USB device using different protocol such as firewire, which is a Universal Serial Bus version 2.0 (USB).**

(20) Response to Argument

The applicant argues that, Maier and Lu, the cited references, combined, does not teach "based upon allocations of system bus bandwidth to the device communicating with the host device over the system bus ".

This argument is not persuasive because paragraph 0034 of Maier discloses, "Two of these four modes require a bandwidth reservation, which is accorded or not by the USB host after an enumeration phase, depending on the bandwidth already reserved by other USB devices, which are plugged onto the USB bus". According to this paragraph, the card is storing data base on the bandwidth already reserved by other USB devices. The applicant's claim language is not specific with respect to 'allocating'. With respect to detach and reattach, as argued in pages 12 and 13 of the brief, paragraph 0034 of Maier discloses of devices that were previously attach to the host.

(21) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Examiner of Record

/Ernest Unelus/ EU

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Primary Examiner, Art Unit 2169

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